

Thus a change from moderately dry to damp air (60 to 90 per cent *R.H.*) shortened the average interval value from 21 to 18 tenth-seconds, a variation amounting to three times the observational error. Air temperature, degree of cloudiness and wind-strength were found to exert a significant, though less pronounced, influence on the magnitude of the song interval.

(iii) On grouping the recorded interval values in order of frequency of occurrence, a significant pattern is exhibited consisting of at least seven dominant values which range from 0.7 sec. to 3.7 sec., and are separated by an apparently constant difference of 0.5 sec. This distribution is illustrated by the data of Table 2, where the maximum frequency of occurrence has been arbitrarily chosen as 100.

TABLE 2. FREQUENCY DISTRIBUTION OF DOMINANT INTERVALS

Days from onset of singing	Dominant interval (tenth-seconds)						
	07	12	17	22	27	32	37
5	25	100	33	25	0	0	0
75	0	8	78	100	50	8	3
135	0	26	100	44	6	0	0

The occurrence frequency of the dominant intervals undergoes a systematic fluctuation in step with the seasonal cycle of the male bird, low values occurring around the dates of onset and cessation of singing; while higher values are restricted to the period which corresponds closely with the maximum phase of sexual activity. The causes underlying the changes just described are, in all probability, highly complex. It is hoped that other workers, more qualified to appreciate the zoological aspects of the problem, may be led to undertake further research, preferably using a microphone and electronic time-base to record the song interval objectively.

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<sup>1</sup> Garstang, W., "Songs of the Birds" (London: John Lane, Bodley Head, 1922).

### Earliest Known Prehistoric Industry

MR. J. E. SAINTY and the late Mr. Reid Moir have reported the occasional finding, in the Sub-Crag deposits of Norfolk and Suffolk, of flint flakes which they ascribed to human manufacture. Being so sporadic, these flakes have been doubted by some (including myself) as definite indication of the presence of man or of a man-like form. My own doubts have been completely dispelled by the discovery of an excellent flake industry at this horizon occurring at five different sites near Cromer.

The industry consists mostly of side-bulb flakes produced in two fashions. They have been struck freely from undifferentiated asymmetrical and pebble cores, of the Clactonian form I have described elsewhere as the most primitive; or they have been produced by the bi-polar technique, splitting a fresh flint cobble by placing it upon another as a stock and striking with a third as a hammer. (These techniques should not be confused with the peculiarly misnamed 'block-on-block technique' said to be typical of the free-flaking Clactonian *sensu stricto*.) Most of the flakes have, necessarily, much cortex remaining on the reverse surface, but some show preparatory working associated with pebble cores.

Retouch is always from the flake surface, either free, with small 'running' flake scars, or step, closely similar to the typical Mousterian. Indeed, one specimen shows a perfect convex working edge as good as most Mousterian side scrapers. Other forms of working edge are deep and shallow single notches, points, double notches and abrupt-nosed ends. Small elongated cobbles, broken across, have been retouched on the scar edge like the so-called Darmsdenian, and large simple and asymmetrical cores have been used as hammers and choppers. One site, 13 ft. by 2 ft. 4 in. deep, has yielded an assemblage of more than three hundred flakes and tools distinctly reminiscent of the modern Tasmanian. I may add that my selection was most rigorous, involving the rejection of all pieces not certainly flakes, or showing flake scars.

The stratum, resting on Chalk, is a sub-aerial accumulation of flint cobbles weathered out over a long period and held together by sand and occasional clay, and is immediately overlain by the marine Weybourne Crag and by the Cromer Forest Bed series undisturbed with, in places, nearly 200 ft. of Pleistocene boulder clays, conglomerates, gravels, sands and loess-clays yielding palaeolithic, and on top, later artefacts. Reid Moir traced the horizon beneath the Red Crag of Ipswich, making it the equivalent of the 'Stone Bed'. If this is so, the industry is pre-Pleistocene, assuming the base of the Pleistocene to be the Red Crag, the equivalent of the Rousillon, Astian and Tatrot, first glacial, and the Norwich Crag the equivalent of the Séneze, Villafranchian and late part of the Tatrot (Pinjor being first interglacial). The industry cannot be later than first glacial, but on several grounds it is most likely pre-Pleistocene.

We may confidently believe that here in East Anglia we have the most extensive sequence of prehistoric remains, and by far the earliest 'man'-made industry known to archaeologists and geologists, opening up a new field of speculation on the antiquity of man.

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### Combined Radar, Photographic and Visual Observations of the Perseid Meteor Shower of 1947

DURING the past two years, considerable attention has been given to the radar reflexion from the ionization produced by meteors in our upper atmosphere. Significant results using frequencies of 2.7-212 mc./s. have been published by a number of investigators in both Britain and the United States<sup>1</sup>. In these papers there has been a general lack of any large quantity of correlated visual data giving the accurate times and positions of the meteors in the sky.

In August 1947 the Dominion Observatory in Ottawa and the National Research Council of Canada collaborated in an effort to secure correlated radar, visual and photographic records of meteors. The radar equipment was designed and operated by the National Research Council; the visual and photographic programmes were carried out by the Dominion